

# LIFE CYCLE CERTIFICATION

*REGIONAL TRANSPORTATION PLAN*

## Freeway Program July 2012



**ADOT**

Arizona Department of Transportation

## **Certification of Revenue and Costs**

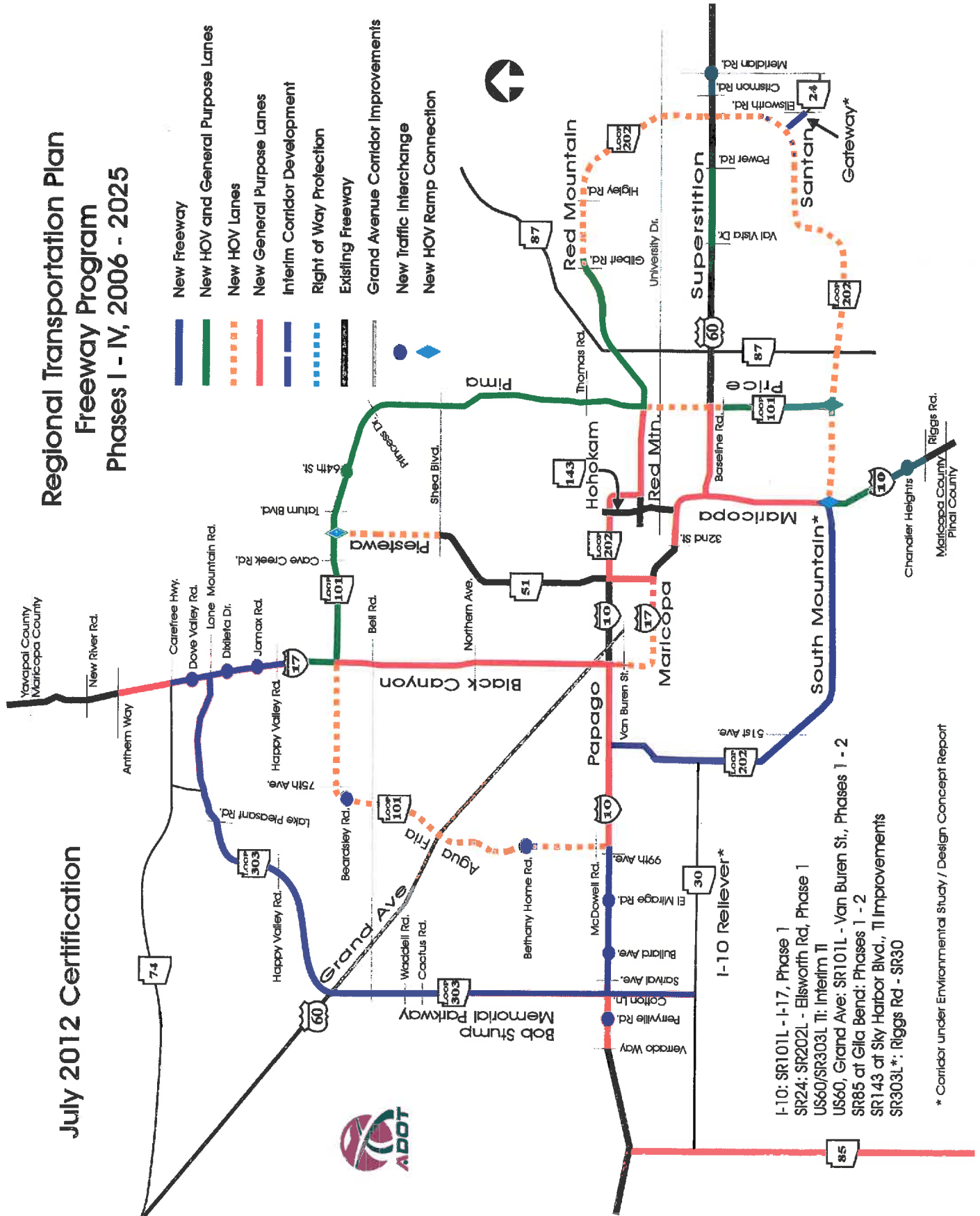
Regional Transportation Plan  
Freeway Program  
July 2012



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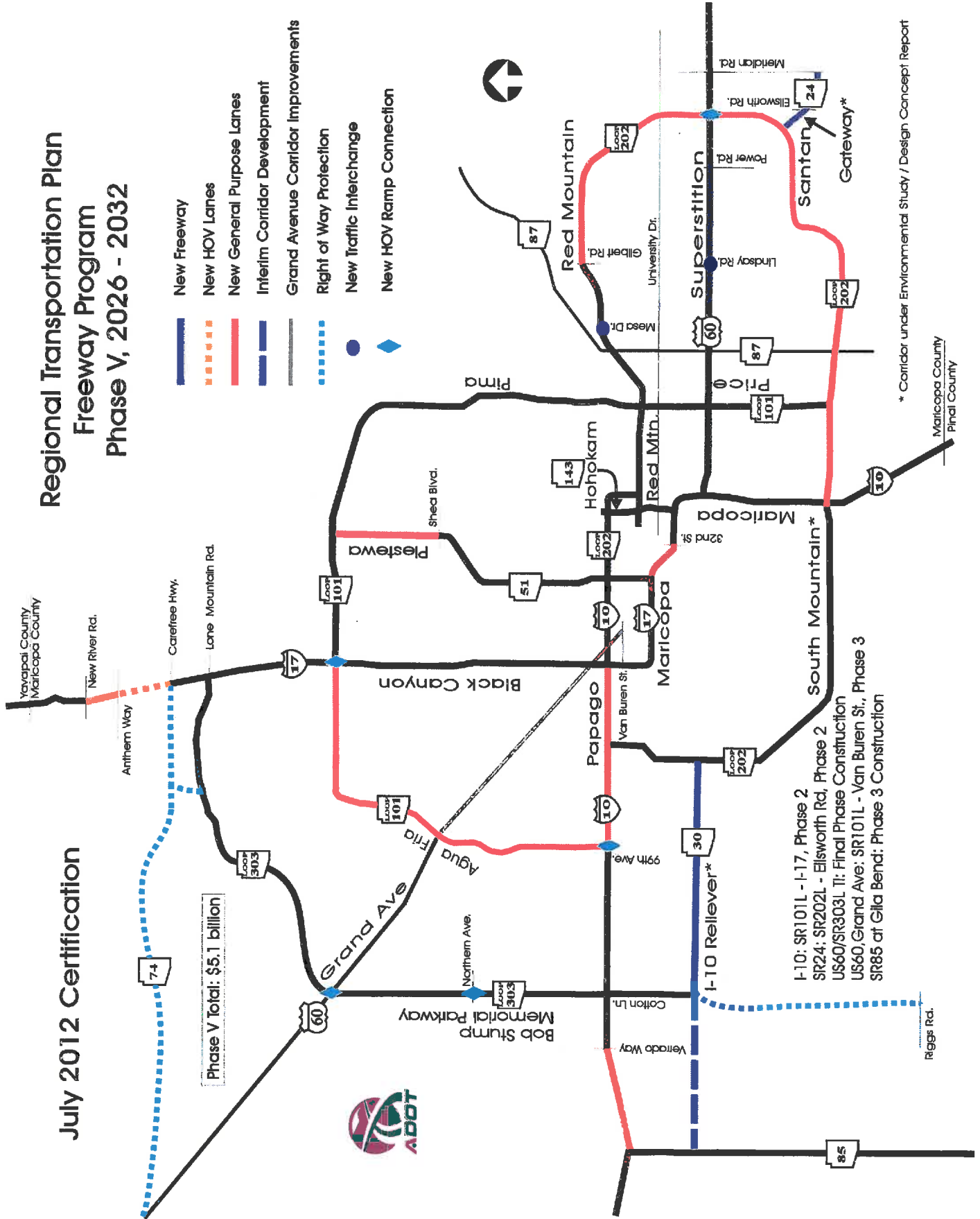
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# July 2012 Certification



\* Corridor under Environmental Study / Design Concept Report

# Regional Transportation Plan Freeway Program Phase V, 2026 - 2032



# Introduction





## INTRODUCTION

This report presents the Arizona Department of Transportation July 2012 Certification of the Maricopa Association of Governments Regional Transportation Plan Freeway / Highway Life Cycle Program, also known as the RTPFP Life Cycle Program. It reports costs, revenue and progress through June 30, 2012, along with an estimate of future costs and revenue for the remainder of the Program. This certification and review process helps ensure that projected revenues and costs stay in balance as required by Arizona Revised Statutes (A.R.S.) § 28-6352.A.

A Life Cycle Program is a programming approach that forecasts and allocates funds through the full life of a major funding source, in this instance the Maricopa County half-cent sales tax. The tax was approved under Proposition 400 by voters in Maricopa County on November 2, 2004. The tax and the RTPFP Life Cycle Program run from January 2006 through December 2025. This Certification provides an important tool to help ensure that the Arizona Department of Transportation (ADOT) and the Maricopa Association of Governments (MAG) maintain realistic planning and construction schedules based upon anticipated funding and costs, and provides a periodic report to the public and other governmental agencies on the status of the RTPFP.

Forecasting future costs and revenue is at best an uncertain process as shown by the significant changes in the national and local economy over the past few years. Based upon the cash flow analysis for the RTP Freeway Program, the Program was \$390 million short due to lower revenue projections and reductions of the bonding capacities. ADOT and MAG worked together to bring the program back into balance, and in May 2012, the MAG Transportation Policy Committee and the MAG Regional Council approved proposed scenario "Modified 10B" for balancing the \$390 million shortage from the RTP Freeway Program. In June 2012, the State Transportation Board approved a balanced RTP Freeway Program.

ADOT utilizes outside experts to assist with economic forecasting and will continue to monitor cost and revenue trends. These experts cannot say with certainty what the future will bring; therefore, ADOT reviews and certifies costs and revenues every six months. This certification process enhances the flow of information to MAG, the public, and other interested parties on a regular basis, and allows ADOT and MAG to cooperatively make program adjustments as needed.

The Proposition 400 half-cent sales tax helps fund three major programs: the RTPFP, Arterial Streets, and Transit. The proceeds of the tax are divided between the Regional Area Road Fund (RARF) which funds the RTPFP and Arterial Streets Life Cycle Programs, and the Public Transportation Fund (PTF) which funds the Transit Life Cycle Program. References in this report to RARF should generally be considered applicable only to the RTPFP unless otherwise indicated. In accordance with A.R.S. § 42-6105.E, 56.2 percent of the half-cent sales tax collection is allocated to the RTPFP, which includes new freeway corridors to serve growth in the region and improvements to the existing freeway/highway system to reduce congestion and improve safety. It also addresses operational and quality of life issues such as noise mitigation, maintenance, litter control and landscaping. The half-cent sales tax, federal highway funds, and ADOT funds are the three major funding sources for the RTPFP.

# Program Summary





# **PROGRAM SUMMARY**

## **Program Changes**

Arizona Revised Statutes (ARS) 28-6352 (A) requires a budget process that ensures the estimated cost of the freeways and highways in the Regional Transportation Plan (RTP) does not exceed the total amount of revenues estimated to be available.

Based upon the cash flow analysis for the RTP Freeway Program, the Program was \$390 million short due to lower revenue projections and reductions of the bonding capacities.

ADOT and MAG have worked cooperatively throughout this period of economic uncertainty to evaluate the short and long term impacts on the cost, scheduling and delivery of projects and corridors within the RTPFP.

In May 2012, the MAG Transportation Policy Committee and the MAG Regional Council approved proposed scenario "Modified 10B" for balancing the \$390 million shortage from the RTP Freeway Program.

The summary of 2012 Rebalancing Scenario Modified 10B as follow:

I-10 (Maricopa), 32nd St – SR202L Santan: The construction of the local/express lanes was deferred six years to FY 2019 from FY 2013.

I-17 (Black Canyon), I-10 Papago to SR101L Agua Fria: Reduced corridor budget by \$300 million.

SR202L (Red Mountain), SR101L Pima to Gilbert Rd: The construction of the general purpose lane was deferred four years to FY 2019 from FY 2015.

SR202L (South Mountain), I-10 Maricopa to I-10 Papago: Adjusted dates of construction projects between FY 2015 and FY 2019.

SR303L, US60 Grand to I-17 Black Canyon: Deferred construction projects to beyond FY 2026.

SR303L, MC85 to I-10 Papago: Advanced Phase 1 of the construction project to FY 2016.

ADOT and MAG have cooperatively developed a final RTPFP Five Year Construction Program incorporating the MAG recommended scenario to balance cost and revenue. The State Transportation Board adopted the Final Five Year FY 2013–17 RTP Freeway Program in June 2012 and MAG Regional Council adopted it in July 2012.

ADOT and MAG, with the help of outside economic expertise, will continue to monitor this situation closely to assess impacts to the RTPFP and make future program adjustments as needed.

Note that the current RTPFP Life Cycle Program covers the period from January 2006 through December 2025. However, the current MAG RTP Freeway Program covers the period through FY 2032. Projects that have been deferred out of the Life Cycle Program to those future years will be brought back if and when the revenue situation allows. It is also possible that voters could approve a future extension of the half-cent sales tax. Even without a tax extension, the MAG area will still have ADOT funds and federal highway funds in future years, enabling the Program to continue, although in a somewhat reduced scale.

### **Estimated Revenues and Program Costs**

The Freeway Life Cycle Program runs from 2006 thru 2025 and is divided into “Phases I thru IV” of five years each. Deferral of some projects to future years due to revenue shortfall has resulted in a new “Phase V” in years 2026 - 2032 with an estimated cost of \$5.2 billion. Phase V is not part of the current Prop 400 Life Cycle Program.

Obligations for the RTP Freeway Program to date total \$3.83 billion. The remaining cost to complete the RTP Freeway Program through year 2025 is estimated to be \$5.05 billion. Total cost for the 20 Year Life Cycle Program is presently estimated to be \$8.88 billion. Details are shown in the “Construction Costs” section.

In the January 2012 certification, overall program totals and forecasts show a deficit approaching \$880 million by the end of FY 2016 and then declining in subsequent years in which revenue exceeds costs. MAG and ADOT worked together to correct this imbalance by adjusting project schedules to better match anticipated revenue cash flow, and will continue to monitor estimated costs and revenue and make modifications to the program as needed to keep costs and revenue in balance.

### **Project Milestones**

<b>Projects Completed / Opened to Traffic since last Certification</b>				
<b>ROUTE</b>	<b>SEGMENT</b>	<b>PROJECT TYPE</b>	<b>OPEN TO TRAFFIC</b>	<b>COMMENT</b>
SR143	SR143/Sky Harbor Blvd TI	TI Improvement	Mar-12	Partial Opening (Ramp ES Opened)
GPL = General Purpose Lane; HOV = High Occupancy Vehicle Lane; FMS = Freeway Mgmt System; TI = Traffic Interchange				

<b>Projects Advertised / Awarded since last Certification</b>					
<b>ROUTE</b>	<b>SEGMENT</b>	<b>PROJECT TYPE</b>	<b>ADVERTISE</b>	<b>AWARD</b>	<b>COMMENT</b>
SR24 Gateway	SR202L, Santan to Ellsworth Rd, Ph I	New Freeway	Nov-11	Feb-12	City Advanced. Ralph L. Wadsworth Construction
SR303L	Thomas Rd to Camelback Rd	New Freeway	Dec-11	Apr-12	Ames Construction
SR303L	Glendale Ave to Peoria Ave	New Freeway	Jan-12	Apr-12	Pulice Construction
US60 Grand Avenue	SR101L to 71 <sup>st</sup> Ave	Roadway Improvements	Mar-12	May-12	Combs Construction
I-17 Black Canyon	Arizona Canal to SR101L	FMS	May-12	Pending	
SR51	Glendale Ave to SR101L	FMS	Jun-12	Pending	
US60 Grand Avenue	71 <sup>st</sup> Ave to McDowell Rd	Roadway Improvements	Jun-12	Pending	
GPL = General Purpose Lane; HOV = High Occupancy Vehicle; TI = Traffic Interchange; FMS = Freeway Management System					

Design Concept Reports and Environmental Studies						
ROUTE	SEGMENT	PROJECT TYPE	STUDY TYPE	STUDY STATUS	ENVR. TYPE	ENVR. STATUS
I-10 Maricopa	SR202L Santan - I-8	Freeway Widening	DCR	Underway on-hold	EA	Underway on-hold
I-10 Maricopa	SR51 Piestewa - SR202L Santan	Local and Express lanes	DCR	Underway	EIS	Underway
I-10 Papago	SR101L Agua Fria - I-17 Black Canyon	GPL	DCR	Underway on-hold	EA	Underway on-hold
I-10 Papago	Perryville Rd TI	New TI	DCR	Underway	CE	Underway
I-17 Black Canyon	I-10 Maricopa - SR101L Agua Fria	Capacity Improvements	DCR	Underway	EIS	Underway
US60 Grand Avenue	Thunderbird Rd	TI Improvements	PA	Underway	EA	Underway
US60 Grand Avenue	Bell Rd	TI Improvements	DCR	Underway	EA	Underway
US60 Superstition	Meridian Rd	New TI	DCR	Underway	CE	Underway
SR101L Pima	I-17 to Princess Dr	GPL	DCR	Underway	CE	Underway
SR202L Red Mountain	SR101L Pima - Gilbert Road	GPL	DCR	Underway	CE	Underway
SR202L South Mountain	I-10 Maricopa - I-10 Papago	New Freeway	DCR	Underway	EIS	Underway
SR303L	Hassayampa Fwy – SR30*	New Freeway	AFR	Underway	EO	Underway
SR303L	SR30 - I-10 Papago	New Freeway	DCR	Underway	EA	Underway
SR30 (SR801) I-10 Reliever	SR85 - SR 303L*	New Freeway	DCR	Underway	EA	Underway
SR30 (SR801) I-10 Reliever	SR303L - 202L South Mountain*	New Freeway	DCR	Underway	EA	Underway
DCR = Design Concept Report; EA = Environmental Assessment; CE = Categorical Exclusion EIS = Environmental Impact Statement; EO = Environmental Overview; PA = Project Assessment; NA = Not Applicable; HOV = High Occupancy Vehicle; GPL = General Purpose Lane; TI = traffic Interchange; ASR = Alternative Selection Report; AFR = Alternative Feasibility Report * Study underway with limited activities						

# Revenue Projections

This Section is not updated (Pages 9 – 12 & Page 21)





# Arizona Department of Transportation Transportation Services Group

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janice K. Brewer  
Governor

John S. Halikowski  
Director

John A. Bogert  
Chief of Operations

## LETTER OF CERTIFICATION

The Financial Management Services Office of the Arizona Department of Transportation (ADOT) has developed the following information describing the estimated funds available for construction of the Regional Transportation Plan Freeway Program (RTPFP) from Fiscal Year 2006 through Fiscal Year 2026. This information updates certain information previously certified on August 23, 2011.

This information is intended primarily for internal planning purposes and requires reliance upon a variety of data and information sources. The revenue forecasts rely upon assumptions regarding future economic conditions and on forecasts of certain independent economic variables. These assumptions may or may not prove to be accurate. If the assumptions do not prove accurate, differences between forecast and actual results may occur.

The official forecast is based primarily on data developed during the September 2011 Risk Analysis session, which resulted in lower forecasted revenues. In addition, the State's FY 2012 budget increased the amount of Highway User Revenue Funds (HURF) transferred to the Department of Public Safety in FY 2012, from \$79.2 million to \$120.7 million. The FY 2012 funding for ADOT's Motor Vehicles Division was also been moved from ADOT's operating budget to HURF. In addition, \$105.8 million of the State Highway Fund's share of HURF was transferred to the State general fund, and an additional \$4.1 million was distributed to the 10 least populated Arizona counties in FY 2012. The impact of lower forecast revenues, together with the State budget actions, is a reduction in the amount of HURF and ADOT funding ultimately available to the RTPFP during the period of this Certification.

Although recent data has been reviewed and incorporated where possible, the forecast may not fully reflect the financial and economic uncertainty of recent months. The long term implications are not yet known and are not reflected in this certification. However, the Department will continue its practice of reviewing and updating the forecasts as needed on a semi-annual basis.

## FINANCIAL ASSUMPTIONS

Following are the assumptions made in estimating revenues available for the Regional Transportation Plan Freeway Program.

Bond Proceeds and Debt Service: The issuance of bonds secured by RARF, HURF and federal aid revenues are assumed. Interest on the bond issues is assumed to be 5.0% maximum. Bond maturities are assumed for up to 30 years. Bonds are amortized on a level debt service basis, and assume no refinancing or restructuring.

Regional Area Road Fund (RARF) Transportation Excise Tax: The official revenue forecast for the Proposition 400 RARF half cent sales tax was developed during the September 2011 Risk Analysis session and reflects of economic conditions at that time. It may or may not prove accurate over the longer term and actual revenues will differ from forecast revenues.

Highway User Revenue Fund (HURF) 15% Funds: The MAG area receives annual funding from the Highway User Revenue Fund, which consists of fuel taxes, vehicle license taxes, registration fees and other sources. It is divided by statute among the Department of Public Service (DPS), ADOT, and counties, cities and towns. ADOT receives 50.5% of HURF after an initial distribution to DPS and other items are taken "off the top." ADOT sets aside 12.6% of its distribution by state law, plus another 2.6% by State Transportation Board policy, for controlled access highways and freeways in the MAG and PAG (Pima Association of Governments) areas, of which 75% is allocated to the MAG area. This distribution is often referred to as the ADOT 15% funds.

ADOT 37% Funds: After the deduction of the 15% funds, ADOT's share of HURF funds must pay for ADOT operations, maintenance and debt service on outstanding bonds. The remainder is then combined with ADOT's share of federal highway funds and forms the basis for the ADOT highway construction program. This block of funds is often called the ADOT discretionary funds, of which a 37% share is reserved for freeways and highways in the MAG area.

Federal Aid: Federal Aid includes Surface Transportation Program funding (STP), Congestion Mitigation and Air Quality funds (CMAQ) and other federal highway funds directly sub-allocated to the MAG area (i.e., not part of the 37% funds). The forecast assumes \$34.1 million of MAG sub-allocated STP funds per year will be dedicated to the RTPFP through FY 2015 in the form of debt service for Grant Anticipation Notes (GAN).

Statewide Transportation Acceleration Needs (STAN): Per statute, 60% of STAN funds were distributed to projects in the Maricopa County region. Pima County received 16% and the remaining 24% are distributed to the thirteen other counties.

American Recovery and Reinvestment Act (ARRA): A \$787 billion economic stimulus package was signed into law by President Obama on February 17, 2009. The ADOT highway portion was \$349.7 million which included \$129.4 million for the RTPFP.

Interest Income: Assumes 0.7% investment rate in 2012 and 2.5% thereafter, with 95% invested. Interest income is dependent on prior month's average cash balance.

Third Party Billing: Represents local and other funds for programmed projects.

Other Income: Includes building rent, sales of excess property and other miscellaneous income.



**Discount Factor:** Base year is FY 2012. An annual inflation factor is applied to the costs based on estimated construction and right of way cash flows. See "Economic Forecasts" section.

Additional assumptions regarding the funding from half cent sales tax extension include the following principles:

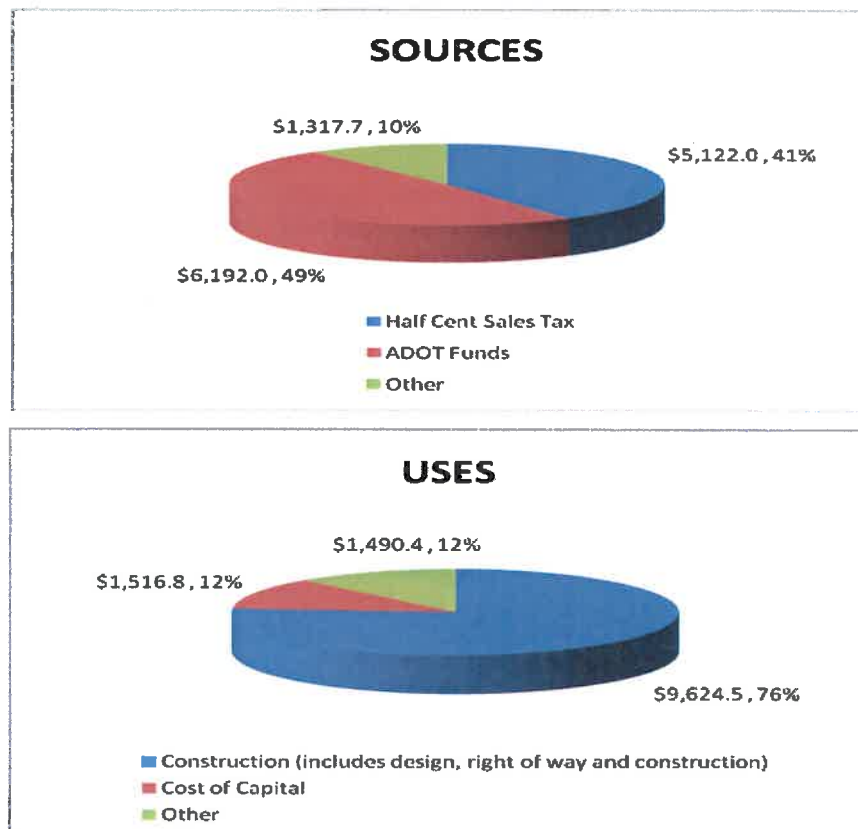
- Firewalls are established so funding cannot be transferred from one category to another.
- Bond proceeds will only be used for capital costs and not for maintenance or operation expenses.
- Consistent with the "firewall" principle, bonding for each funding category will be done independently.

### Revenue Sources and Uses

The following pie chart depicts the sources and uses of Regional Transportation Plan Freeway Program revenues. The sources consist of the transportation excise tax (half cent sales tax), ADOT Funds and various other revenues. The transportation excise tax makes up 41 percent of the total revenues, with ADOT Funds reflecting 49 percent and the remaining 10 percent consisting of various other funding sources, primarily federal aid.

Of the available funding, 76 percent is used for design, right of way and construction. Of the remainder, 12 percent is used for cost of capital and 12 percent is used for a discount factor and Regional Public Transit Authority (RPTA) transfers.

**Certified Financial Plan**  
Fiscal Years 2006 – 2026  
(dollars in millions)  
Total Sources/Uses: \$12,631.6



## Net Revenues

The following chart reflects a breakdown of the individual revenues and costs for the Regional Transportation Plan Freeway Program for the most recent and current Certifications, as well as changes occurring in the interim.

(dollars in millions)

<b>REVENUES</b>	<b>July-11</b>	<b>January-12</b>	<b>Change</b>
1/2 Cent Sales Tax	\$5,242.8	\$5,122.0	(\$120.8)
Highway User Revenues	\$1,656.5	\$1,595.7	(\$60.8)
Federal Aid - ARRA	\$1,008.1	\$1,008.1	\$0.0
MAG 37% Dedicated	\$4,176.5	\$4,176.5	\$0.0
State Discretionary /1	\$313.4	\$313.4	\$0.0
3rd Party	\$126.4	\$136.2	\$9.7
STAN	\$106.4	\$106.4	\$0.0
Interest Income /2	\$90.3	\$94.3	\$4.0
Other Income	\$76.7	\$79.1	\$2.4
<b>Subtotal: Revenues</b>	<b>\$12,797.1</b>	<b>\$12,631.6</b>	<b>(\$165.4)</b>

<b>EXPENDITURES</b>	<b>July-11</b>	<b>January-12</b>	<b>Change</b>
Cost of Capital /3	(\$1,735.8)	(\$1,516.8)	\$219.0
Discount Factor /4	(\$1,227.7)	(\$1,255.7)	(\$28.0)
RPTA Transfer	(\$198.5)	(\$198.5)	\$0.0
Other Costs	(\$20.9)	(\$36.2)	(\$15.3)
<b>Subtotal: Costs</b>	<b>(\$3,182.9)</b>	<b>(\$3,007.2)</b>	<b>\$175.7</b>
<b>Net Funds Available</b>	<b>\$9,614.3</b>	<b>\$9,624.5</b>	<b>\$10.3</b>

### Notes

Figures may not add due to rounding.

/1 All funds committed to date have been utilized.

/2 Interest income is on a cash basis and assumes .7% in FY 12 and 2.5% thereafter, with 95% invested. Interest income is dependent on fund balances.

/3 Includes estimated RARF, HURF, GANS debt service, HELP Repayment, Debt Service Reserve Interest, Proceeds, and GANS and HELP Loan revenue.

/4 Discount Factor represents the change in funding strategies from deflating revenue to inflating costs.

# Construction Costs





Janice K. Brewer  
Governor

John S. Halikowski  
Director

# Arizona Department of Transportation

## Intermodal Transportation Division

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Jennifer Toth  
State Engineer

### LETTER OF CERTIFICATION

The Intermodal Transportation Division of the Arizona Department of Transportation (ADOT) has completed a six month review and update of costs associated with construction of the Regional Transportation Plan (RTP) Freeway Program. Construction and design costs have been updated by our Valley Project Management Group; AECOM, HDR and PB, our three management consultants; and the consultants currently preparing final construction plans. Right-of-way costs have been updated by the ADOT Right-of-Way Group reflecting current appraisals and changes in right-of-way requirements. This information updates and replaces certain information contained in the January 2012 Certification.

The construction and right-of-way cost data in this document provide an accurate accounting of costs incurred and include a realistic estimate of future costs based upon current construction costs and real estate values. Estimated future costs are subject to changes in the economy and are affected by variables in international, national, state and localized market values and trends.

The results of our review provide an accurate basis upon which to schedule and fund the balance of the Freeway Construction Program for Fiscal Years 2013-2017. However, the Department will continue to monitor all trends and make periodic adjustments as required.

Jennifer Toth  
State Engineer

08/23/2012  
Date

## **Freeway Construction Costs and Changes**

The design and construction cost estimates for the Regional Transportation Plan Freeway Program (RTPFP) projects are reviewed and updated by the three management consultants, AECOM, HDR and PB. They also provide preliminary engineering services by developing scoping, Stage I (15%) and Stage II (30%) project documents for the RTPFP. This effort helps define design and right of way requirements, allowing ADOT to establish better cost estimates for design, right of way, utility relocations and construction, at the project and corridor level. The management consultants also monitor cost estimates through the remaining design phases, including the final estimates. They also evaluate contractor bids for RTPFP construction projects to monitor construction unit price cost trends, such as the cost of concrete, asphalt, structures, drainage and other items used to establish project cost estimates. These recent bid prices are then used to update cost estimates for projects in the scoping and design phases.

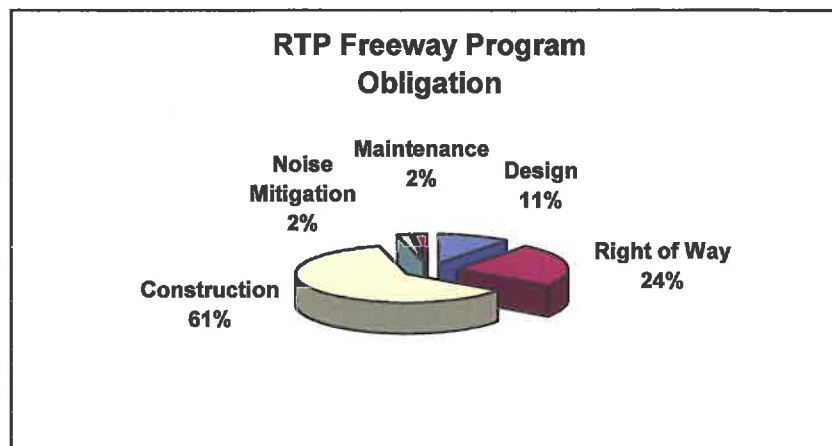
A revenue forecast was developed during the September 2011 Risk Analysis Process. Panel members from various segments of the real estate and economic community were invited to discuss future risks and trends in costs and revenues. The risk analysis process consultant utilized the panel input to update construction cost forecast models and to calculate discount factors. The consultant, MAG, and ADOT Financial Management Services reviewed the discount factors and made further adjustments to fit current cost trends. The projections of future cost and revenue trends developed in the Risk Analysis Process Economic Forecasts are used to help ensure that there are sufficient resources to complete the RTPFP Life Cycle Program.

## Obligations

Obligations by phase and corridor are listed in the table below. These figures are through June 30, 2012. Regional Transportation Plan Freeway Program (RTPFP) obligations since the last certification increased \$314 million, from \$3,511 million to \$3,825 million.

**Regional Transportation Plan Freeway Program Obligations  
Through June 30, 2012  
(dollars in millions)**

Corridor	Design	Right of Way	Construction	Noise Mitigation	Maintenance	Total
I-10, Papago & Maricopa	\$21.9	\$194.1	\$186.6	\$0.0	\$0.0	\$402.6
I-10 Reliever (SR30)	\$0.0	\$20.3	\$0.0	\$0.0	\$0.0	\$20.3
I-17, Black Canyon	\$14.6	\$94.5	\$305.5	\$0.0	\$0.0	\$414.6
SR51, Piestewa	\$3.7	\$0.0	\$47.6	\$0.0	\$0.0	\$51.3
US60, Grand Ave	\$5.7	\$11.2	\$41.7	\$0.0	\$0.0	\$58.5
US60, Superstition	\$2.3	\$0.0	\$118.7	\$0.0	\$0.0	\$121.0
SR74	\$0.0	\$2.9	\$5.8	\$0.0	\$0.0	\$8.7
SR85	\$18.5	\$25.4	\$98.4	\$0.0	\$0.0	\$142.3
SR87, Duthie-Martin	\$2.5	\$0.8	\$35.8	\$0.0	\$0.0	\$39.1
SR88, Apache Trail	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2
US93	\$0.0	\$10.3	\$31.6	\$0.0	\$0.0	\$41.9
SR101L, Agua Fria	\$1.7	\$1.2	\$161.4	\$0.0	\$0.0	\$164.4
SR101L, Pima	\$15.0	\$4.0	\$109.1	\$0.0	\$0.0	\$128.1
SR101L, Price	\$5.0	\$0.0	\$43.9	\$0.0	\$0.0	\$48.9
SR143, Hohokam	\$3.6	\$0.3	\$20.7	\$0.0	\$0.0	\$24.6
SR153, Sky Harbor	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
SR202L, Red Mountain	\$4.3	\$0.0	\$253.2	\$0.0	\$0.0	\$257.5
SR202L, Santan	\$0.0	\$0.0	\$108.1	\$0.0	\$0.0	\$108.1
SR202L, South Mountain	\$8.3	\$129.2	\$0.0	\$0.0	\$0.0	\$137.5
SR303L	\$94.7	\$373.0	\$688.5	\$0.0	\$0.0	\$1,156.2
SR24, Gateway Freeway	\$12.0	\$43.0	\$82.2	\$0.0	\$0.0	\$137.2
Systemwide	\$192.1	\$8.4	\$18.0	\$69.7	\$74.2	\$362.4
<b>TOTAL</b>	<b>\$406.0</b>	<b>\$918.7</b>	<b>\$2,356.7</b>	<b>\$69.7</b>	<b>\$74.2</b>	<b>\$3,825.3</b>



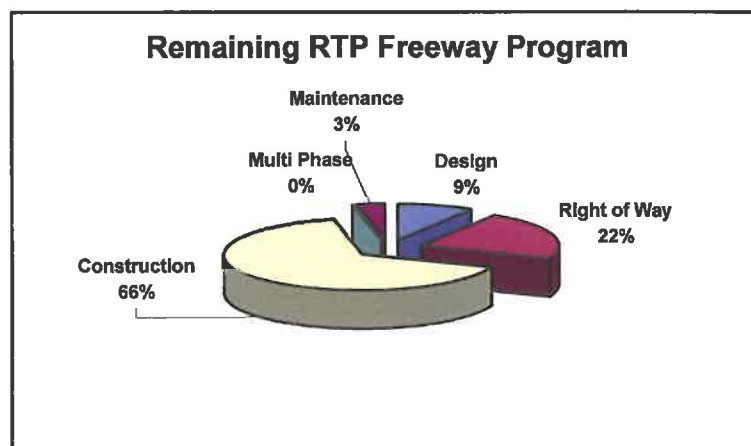
## Remaining System Costs

There remain \$5.05 billion of costs associated with the Regional Transportation Plan Freeway Program (RTPFP).

### Regional Transportation Plan Freeway Program (dollars in millions)

Corridor	Design	Right of Way	Construction	Multi Phase*	Noise Mitigation	Maintenance	Total
I-10, Papago & Maricopa	\$44.9	\$83.7	\$675.9	\$0.0	\$0.0	\$0.0	\$804.5
I-10 Reliever (SR30)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
I-17, Black Canyon	\$54.6	\$240.0	\$526.4	\$0.0	\$0.0	\$0.0	\$821.0
SR51	\$0.0	\$0.0	\$3.1	\$0.0	\$0.0	\$0.0	\$3.1
US60, Grand Ave	\$5.0	\$11.2	\$90.1	\$0.0	\$0.0	\$0.0	\$106.3
US60, Superstition	\$2.7	\$0.0	\$38.2	\$0.0	\$0.0	\$0.0	\$40.9
SR74	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
SR85	\$0.0	\$0.0	\$5.3	\$0.0	\$0.0	\$0.0	\$5.3
SR87, Duthie-Martin	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
SR88, Apache Trail	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
US93	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
SR101L, Agua Fria	\$1.0	\$0.0	\$23.5	\$0.0	\$0.0	\$0.0	\$24.5
SR101L, Pima	\$13.9	\$0.0	\$288.8	\$0.0	\$0.0	\$0.0	\$302.7
SR101L, Price	\$3.5	\$0.0	\$51.9	\$0.0	\$0.0	\$0.0	\$55.4
SR143, Hohokam	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
SR153, Sky Harbor	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
SR202L, Red Mountain	\$8.1	\$1.0	\$118.1	\$0.0	\$0.0	\$0.0	\$127.2
SR202L, Santan	\$4.7	\$0.0	\$59.0	\$0.0	\$0.0	\$0.0	\$63.7
SR202L, South Mountain	\$77.6	\$616.2	\$1,107.7	\$0.0	\$0.0	\$0.0	\$1,801.5
SR303L	\$27.1	\$91.0	\$272.9	\$0.0	\$0.0	\$0.0	\$391.0
SR 24, Gateway Freeway	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Systemwide	\$205.7	\$62.1	\$67.3	\$0.0	\$0.0	\$169.2	\$504.3
<b>TOTAL</b>	<b>\$448.8</b>	<b>\$1,105.2</b>	<b>\$3,328.3</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$169.2</b>	<b>\$5,051.4</b>

- Multi Phase: Includes more than one phase (For example, "Design and Right-of-Way" or "Design and Construction," etc.).





## Roadway Design

ADOT currently has 11 major RTP Freeway Program projects under design. Major design work continues on the following projects:

Corridor	Project Location	Length (Miles)	Design Status
I-10, Papago	Dysart Rd. – SR101L Landscape	4	Stage I
SR85	Warner St. Bridge	Bridge	Stage IV
SR101L, Agua Fria	Maryland Ave.	HOV Ramps	Design Build
SR101L, Pima	Shea Blvd. – Chaparral Rd.	5	Stage II
SR101L, Pima	Chaparral Rd. – SR202L	5	Stage II
SR303L	El Mirage Rd. TI	TI	Stage I
SR303L	Camelback Rd. – Glendale Ave.	2	Final
SR303L	Peoria Ave. – Waddell Rd. Landscape	2	Stage III
SR303L	Waddell Rd. – Mountain View Blvd. Landscape	4	Stage III
SR303L	US60/SR303L TI	TI	CMAR
SR303L	US60 – Happy Valley Rd.	4	Stage II
Stage I = 15% Plans; Stage II = 30% Plans; Stage III = 60% Plans, Stage IV = 95% Plans; Final = 100% Plans DB = Design Build process; CMAR = Construction Manager at Risk process			

## Right of Way

During the July 2012 Certification period from January 1, 2012 through June 30, 2012, the Right-of-Way Group acquired 125 acres of land for the RTP Freeway Program. When added to the previously acquired acreage, as of June 30, 2012, the Right-of-Way Group has acquired a total of 4,045 acres for the RTP Freeway Program.

### RTP Freeway Program Right-of-Way (acres)

Corridor	Previously Acquired	Acquired during this Certification Period	Total
I-10, Papago & Maricopa	68.8	7.3	76.1
I-10 Reliever (SR30)	75.6	0.0	75.6
I-17, Black Canyon	245.0	0.0	245.0
SR51, Piestewa	0.0	0.0	0.0
US60, Grand Ave.	1.5	6.2	7.7
US60, Superstition	0.0	0.0	0.0
SR74	13.0	0.0	13.0
SR85	1,109.7	0.0	1,109.7
SR87, Duthie-Martin	25.4	0.0	25.4
SR88, Apache Trail	0.0	0.0	0.0
US93	94.0	0.0	94.0
SR101L, Agua Fria	2.3	0.0	2.3
SR101L, Pima	3.1	0.0	3.1
SR101L, Price	0.0	0.0	0.0
SR153, Sky Harbor	0.0	0.0	0.0
SR202L, Red Mountain	0.0	0.0	0.0
SR202L, Santan	0.0	0.0	0.0
SR202L, South Mountain	317.5	0.0	317.5
SR303L	1,819.7	111.9	1,931.6
SR24, Gateway Freeway	144.0	0.0	144.0
Systemwide	0.0	0.0	0.0
<b>Total</b>	<b>3,920</b>	<b>125</b>	<b>4,045</b>

# Historical Overview



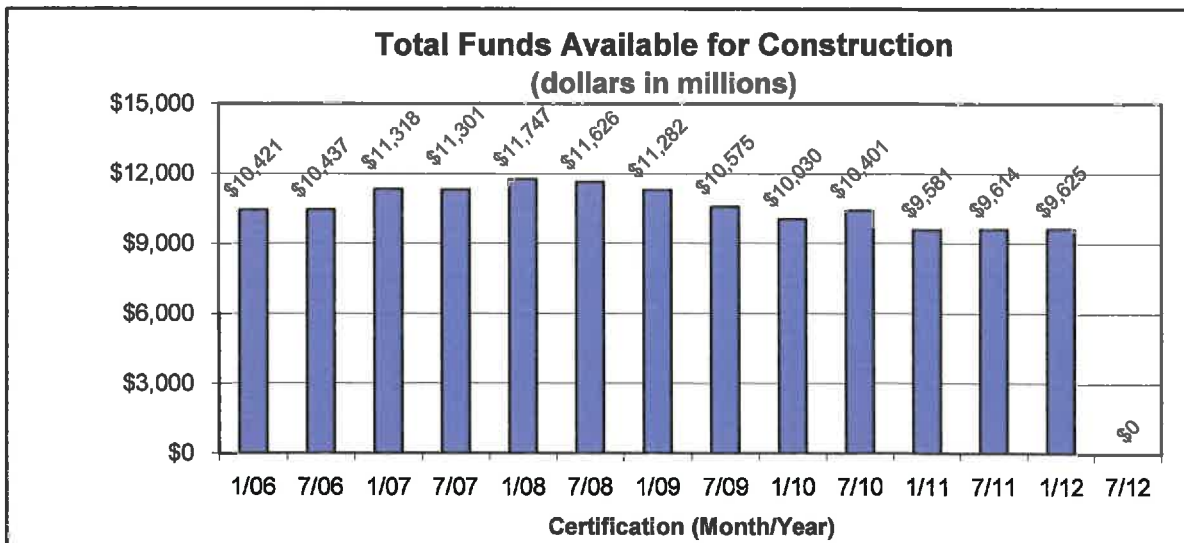
## Historical Overview of Funding

ADOT has been certifying estimated revenues available for construction of the Regional Transportation Plan (RTP) Freeway Program since January 2006. Table 1 shows the revenue estimates and associated costs beginning with the January 2006 Certification. Graph 1 shows the level of funding available for construction of the RTP Freeway Program.

**Table 1**  
**Historical RTP Freeway Program Funds Available for Construction**  
(dollars in millions)

Certification Date	Revenues				Costs				Available for Construction
	1/2 Cent Tax	ADOT Funds	Other	Total	Capital	Discount Factor	Other	Total	
1/06	\$8,178	\$7,990	\$665	\$16,834	-\$2,279	-\$3,908	-\$225	-\$6,412	\$10,421
7/06	\$8,200	\$8,112	\$677	\$16,989	-\$2,403	-\$3,906	-\$242	-\$6,551	\$10,437
1/07	\$8,652	\$8,372	\$725	\$17,749	-\$2,483	-\$3,703	-\$244	-\$6,430	\$11,318
7/07	\$8,652	\$8,372	\$732	\$17,756	-\$2,577	-\$3,635	-\$244	-\$6,456	\$11,301
1/08	\$8,646	\$8,417	\$821	\$17,883	-\$2,564	-\$3,326	-\$245	-\$6,136	\$11,747
7/08	\$8,421	\$8,411	\$908	\$17,741	-\$2,379	-\$3,486	-\$250	-\$6,115	\$11,626
1/09	\$7,764	\$7,444	\$955	\$16,163	-\$2,391	-\$2,237	-\$254	-\$4,881	\$11,282
7/09	\$6,708	\$7,359	\$1,109	\$15,177	-\$2,367	-\$1,980	-\$255	-\$4,602	\$10,575
1/10	\$6,472	\$6,506	\$1,156	\$14,134	-\$2,367	-\$1,518	-\$218	-\$4,104	\$10,030
7/10	\$6,456	\$6,460	\$1,171	\$14,087	-\$1,914	-\$1,554	-\$219	-\$3,686	\$10,401
1/11	\$5,240	\$6,423	\$1,241	\$12,904	-\$1,741	-\$1,361	-\$221	-\$3,323	\$9,581
7/11	\$5,243	\$6,253	\$1,302	\$12,797	-\$1,736	-\$1,228	-\$219	-\$3,183	\$9,614
1/12	\$5,122	\$6,192	\$1,318	\$12,632	-\$1,517	-\$1,256	-\$234	-\$3,007	\$9,625
7/12	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

**Graph 1**



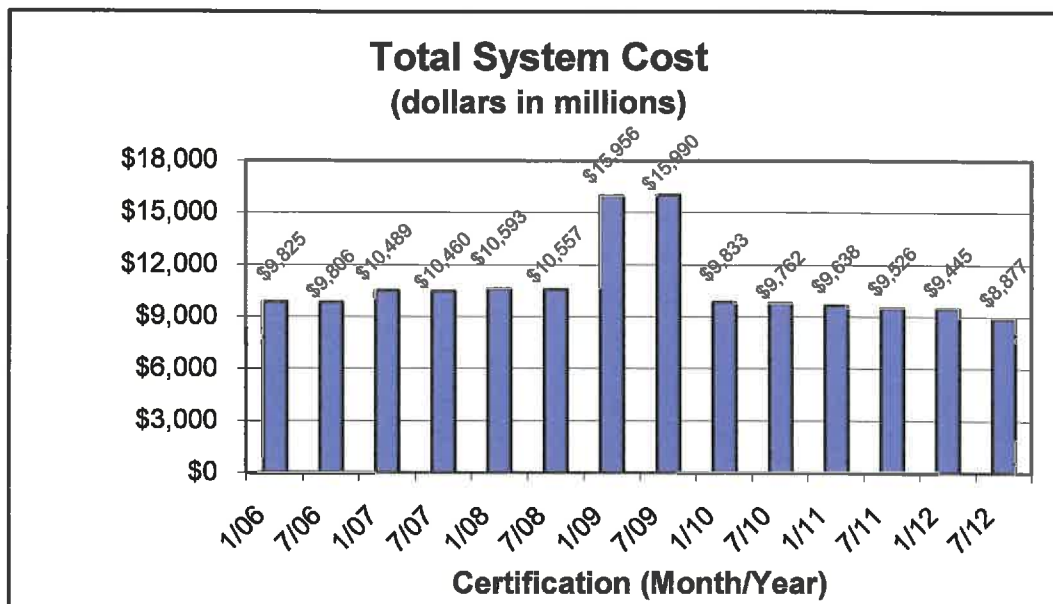
## Historical Overview of Costs

ADOT has been certifying estimated costs to complete the Proposition 400 Regional Transportation Plan (RTP) Freeway Life Cycle Program (FLCP) since January 2006. Table 2 shows the cost estimates for the system beginning with the January 2006 Certification. Graph 2 represents the estimated total cost of the RTP Freeway Program.

**Table 2**  
**Historical RTP Freeway Program Cost Estimates**  
(dollars in millions)

Certification Date	Obligations	Cost to Complete	Total System Cost
1/06	\$178.0	\$9,647.1	\$9,825.1
7/06	\$234.3	\$9,571.3	\$9,805.6
1/07	\$435.2	\$10,053.4	\$10,488.6
7/07	\$779.0	\$9,681.0	\$10,460.0
1/08	\$1,171.3	\$9,421.2	\$10,592.5
7/08	\$1,506.8	\$9,050.0	\$10,556.8
1/09	\$2,053.1	\$13,902.4	\$15,955.5
7/09	\$2,120.9	\$13,868.8	\$15,989.7
1/10	\$2,372.6	\$7,460.0	\$9,832.6
7/10	\$2,636.9	\$7,125.5	\$9,762.4
1/11	\$2,972.0	\$6,665.6	\$9,637.6
7/11	\$3,146.8	\$6,379.1	\$9,525.9
1/12	\$3,510.8	\$5,933.8	\$9,444.6
7/12	\$3,825.3	\$5,051.4	\$8,876.7

**Graph 2**



# Economic Forecasts



## **Economic Forecasts**

Estimating future revenue and costs for construction and right-of-way is an essential part of the RTPFP Life Cycle Program to help ensure that future costs and revenue stay in balance. The forecasts rely on information about past and current economic conditions and assumptions about future conditions and the interrelationships between multiple variables. Those assumptions and the economic models may or may not prove accurate and differences between forecast and actual results most likely will occur. ADOT and MAG work cooperatively to monitor cost and revenue trends and adjust the Life Cycle Program accordingly.

In order to deal with the variability between estimated and actual values, ADOT introduced the Risk Analysis Process (RAP) in 1992. It is generally done each year in August or September for ADOT by HDR Decision Economics, a firm that specializes in economic forecasting. Data is collected from a variety of sources, including regional, state, national and international factors which influence costs and revenues, plus input from a panel of local experts along with historic data. A complex statistical risk-based analysis is then performed to forecast future cost and revenue. The process results in a series of forecasts, with specified probabilities of occurrence, rather than a single "best guess" estimate. It represents a snapshot of conditions and opinions at the time and may be adjusted upward or downward by ADOT for the subsequent January and July Certification reports as conditions change.

Because the Certification is based on remaining costs in current dollars, future estimates of revenue are discounted to current dollars based on the RARF official forecast.

### **Revenue Forecast:**

The Department's Official Forecast for FY 2012-2026 totals \$6,815.8 million, a decrease of \$221.0 million from the October 2010 Official Forecast. The panel members were more pessimistic in their estimates for both the short and long term trends for Maricopa County compared to last year's panel. Except for Sky Harbor passenger traffic variable, the panel members predicted lower growth rates for all the independent variables for FY 2012-2026. They continue to be concerned with the depressed real estate market, slower population and job growth and the uncertainty in the global economy.

The Official Forecast result incorporates the 50 percent confidence interval for each year of the forecast except for FY 2012. The FY 2012 forecast of \$321.6 million was developed by ADOT staff independently of the econometric model using time series techniques, and historical and projected growth rates from the model.



### RAP Results – RARF Revenue Forecast

Fiscal Year	RARF Mean Forecast	RARF Official Forecast	Confidence Level	RTPFP Share /2
2012	\$329.6	\$321.6	N/A	\$180.7
2013	354.2	344.2	50%	193.4
2014	379.7	364.8	50%	205.0
2015	404.5	385.4	50%	216.6
2016	428.8	405.9	50%	228.1
2017	452.8	426.5	50%	239.7
2018	477.3	447.2	50%	251.3
2019	501.5	470.2	50%	264.2
2020	525.6	489.9	50%	275.3
2021	549.4	511.6	50%	287.6
2022	574.4	534.6	50%	300.4
2023	600.3	557.0	50%	313.0
2024	627.5	580.0	50%	326.0
2025	655.7	607.1	50%	341.2
2026 /1	399.5	369.8	50%	207.9
Total	\$7,260.8	\$6,815.8		\$3,830.5
Avg. CGR	5.4%	5.0%		

Notes: Amounts in current dollars. Totals may not add due to rounding

/1 Reflects the end of the sales tax on 12/31/2025

/2 The RTPFP share is 56.2% of the total. Note that 33.3% of the total goes to the public transit fund and 10.5% to the arterial street fund.

CGR = Average annual compound growth rate

### Construction Costs:

HDR Decision Economics performed a statistical analysis of highway construction costs for the ADOT. The purpose was to develop construction cost escalation factors, in a risk analysis framework, to be used by ADOT for planning purposes. The study relies on historical trend analysis and expert consensus-based risk assessment for cost of key construction items.

The study included construction costs in eight broad categories that were selected based on their contribution to the overall dollar value of highway construction contracts in Arizona. It also considered a range of potential explanatory variables (at the state, national and international levels) that may impact local construction prices and assessed historical trends and correlations for those variables. Those factors include such items as regional and national construction spending, construction wages, regional gross state product, prices for major construction commodities and equipment, the consumer price index, the producer price index for highway and street construction, crude oil prices and international exchange rates. A panel of local experts on construction costs also provided estimates of future costs.

Discount factors representing the rate of construction cost growth are calculated using software developed by HDR Decision Economics. Data from the September 2011 Risk Analysis Process for construction was utilized to compute factors for design and construction. These factors represent potential cost growth which includes general inflation.

### **RAP Results – Construction Discount Factors**

<b>Fiscal Year</b>	<b>Mean Value</b>
2013	2.2%
2014	2.5%
2015	2.8%
2016	3.0%
2017	3.0%
2018	3.1%
2019	3.1%
2020	3.1%
2021	3.1%
2022	3.0%
2023	3.0%
2024	3.0%
2025	3.0%
2026	3.0%

It is noteworthy that construction prices experienced large increases from 2003-2008 but have been trending downward since then due to the effects of the current economy. These lower prices have been used in estimating current costs of completing the RTPFP and will continue to be monitored for any changes in future cost trends.